

Iris Fang

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MBARI

Dr. George Matsumoto
7700 Sandholdt Road
Moss Landing, CA 95039

Dear Dr. Matsumoto,

I am excited to have the opportunity to apply to the MBARI summer internship program again this year. I am currently a senior majoring in biology at Swarthmore College. As I am graduating this coming May, I am looking for opportunities to apply the skills I have learned so far to further my experience in marine ecology research and ultimately solidify my research interests before continuing on to graduate school. I believe MBARI is an ideal place to apply the critical thinking skills I have gained in college, the practical skills from previous research positions, as well as my interests in technology and the deep sea to exploring another area of marine biology that is new and exciting to me.

This past summer I completed an REU at the Smithsonian Environmental Research Center (SERC) where I studied dissolved oxygen (DO) and pH cycling in the Chesapeake Bay. I learned how to use and calibrate YSI sondes to collect water quality data and worked independently to collect and analyze data from the field. I found that while in the same river, one sampling site experienced tidally driven DO and pH cycles while another site showed irregular patterns that merit further study. Studies like this help assess the health of tributaries in the bay that provide nurseries for oysters, crabs, and fish that are economically important for fisheries in the area. Though as overfishing at the surface drives fishing industries into deeper waters, I have become concerned about the impacts surface ecology have on deep sea ecology and vice versa.

After working at SERC, I have become interested in how physical and environmental factors including DO and pH affect marine ecology, biodiversity, and physiology not only in coastal systems but also in the deep sea and mid-water. I am especially interested in incorporating computer science and technology including YSI sondes and submersibles to advance both field and lab work. These interests have drawn me to MBARI and the projects listed below:

- Gulf of California
- Monitoring changes in a deep-seafloor community using time-lapse photography
- Midwater Ecology

Some relevant courses I have taken so far include:

Biomechanics	A	Intro to Computer Systems	B+
Comparative Vertebrate Anatomy	A-	Intro to Computer Science	A
Invertebrate Biology	A	Intro to Statistical Methods	B+
Cell Biology	B	Organic Chemistry I	B

These classes as well as my internship at SERC have taught me various wet lab techniques and safety skills, the importance of keeping organized and detailed notebooks, observational drawing, modular problem solving, strong experimental design, and data entry, analysis, and interpretation. I hope to be able to put these skills to good use as an intern at MBARI.

In closing, I would like to reiterate that I am applying for the MBARI summer internship not just to gain research experience to prepare for graduate school, but also to apply the skills I have gained at Swarthmore, SERC, and beyond to pursuing my interests in marine ecology and applied computer science. Thank you so much for your time and consideration in reviewing my application. I look forward to hearing back from you in March.

Sincerely,

A handwritten signature in cursive script that reads "Iris Fang". The signature is fluid and elegant, with the first name "Iris" and last name "Fang" clearly distinguishable.

Iris Fang